

## ABSTRACT

## HIGH-MECHANICAL STRENGTH COPPER ALLOY

5 A high-mechanical strength copper alloy, which  
comprises Ni 3.5 to 4.5% by mass, Si 0.7 to 1.0% by mass,  
Mg 0.01 to 0.20% by mass, Sn 0.05 to 1.5% by mass, Zn 0.2  
to 1.5% by mass, and S less than 0.005% by mass (including  
0% by mass), with the balance being made of Cu and  
10 inevitable impurities, wherein a crystal grain diameter is  
from more than 0.001 mm to 0.025 mm; and the ratio (a/b),  
between a longer diameter *a* of a crystal grain on a cross  
section parallel to a direction of final plastic-working,  
and a longer diameter *b* of a crystal grain on a cross  
15 section perpendicular to the direction of final-plastic  
working, is 1.5 or less, and wherein the alloy has a  
tensile strength of 800 N/mm<sup>2</sup> or more.